

Disinfectant Identification

① Virkon-S

oxidizing agent.

oxidize cell membrane of M.o

loss of structure & cell lysis

↓
Death

Nacent $O_2 \rightarrow$

Damage protein & DNA

* identified by color pink



* Consist of K^+ peroxymono sulphate + NaCl.

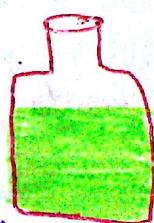
* organic acid, surfactant → Combination with wide Microbial spectrum of activity & some is efficient in presence of organic materials.

② TH-4 → identified by color → light green.

* Di decyle di methyl ammonium chloride.

uses:

bactericide & fungicide.



side effects:

infertility and cause birth effects.

(1) Iodine Compound / Povidine "Color, Odour, shape" "Halogens"

Mode of action → oxidation of essential sulphydryl group.

↳ chlorine reacts with water →

uses : hypochlorous acid → microbicidal.

* 2% iodine + 70% alcohol → antiseptic.

* 10% povidone iodine → pre & post operative skin disinfection

adv → sporicidal in ↑ concentration.

↳ effective against bacteria, fungi, mycobacteria, enveloped & non-enveloped viruses.

disadv



→ odour, not used in meat & dairy industry.

→ rapidly inactivated by organic matter.

→ Corrosive, staining.

→ ↑ Grc → irritating to eye & skin.

(2) Phenol (color, shape) Halogens.

Mode of action → disturbing of cell membrane, inactivation of enzymes, ppt. of protein

adv → Maintains active in hard water & in presence of organic matter.

Disadv → 1. Grc ↑ 2% → Highly toxic.

2. Vapors are corrosive to eye & skin.

3. Inhalation of vapors → lung edema.

4. Long term exposure → harm to liver, kidney.



Chromium Potassium



* Inorganic chemical compound.

* Strong oxidizing agent.

* Antiseptic → Treatment of Cancer Sores' Ulcers'

→ " Dermatitis, fungal infection of hands, feet.

→ Used industrial → to remove iron, hydrogen sulfide

Disadv.

→ Staining of skin purple color.

→ React with Conc. $\text{H}_2\text{S}\text{O}_4$ - highly explosive.

Cresol → Color "off white" Cylindrical & Odour.

Mode of action → Disruption of membranes, ppt. of protein, inactivation of enzymes.

Active principles → chloroxylenol.

Uses → Diluted Dettol → clean cuts, wounds

→ disinfect surfaces as household floors, work surfaces, kitchens.

Disadv.

→ Lethal toxicity.

→ Poisons when ingested or inhaled.

~~o.d.k~~ → effective disinfectant & antiseptic.



③ Acetic acid \Rightarrow organic acid (جو بروڈاکٹ)

Mode of action \rightarrow Destroy nucleic acid bone \rightarrow ppt. of protein
 \rightarrow change p.H of environment \rightarrow lethal effect.

- uses
- * 95% most used
 - * 5% Typical working solution \rightarrow House hold vinegar.
 - * 2% \rightarrow Contaminated surface \rightarrow ↓ level of FMD

Disadv: \rightarrow ↓ activity in presence of organic materials

Adv: less toxic, less corrosive, less irritant.

④ Ethyle alcohol (odour + touch) (جو ۲۵)

Mode of action \rightarrow Dehydration of cell.
 \rightarrow Coagulation of protein.

- * low concentration is more effective.

uses:

- * 70% ethyle \rightarrow antiseptic on skin.
- * 80% ethane + 5% isopropanol \rightarrow lipid & enveloped virus as hepatitis B, C.

Disadv:

- 1- volatile.
- 2- flammable
- 3- very irritating on injured skin
- 4- inactive in presence of organic materials

⑤ formaldehyde \rightarrow 40% formaline "Orbital" (ویسیس)

mode of action \rightarrow Denaturation of protein.

- uses
- \rightarrow surface disinfection + fumigation of rooms.
 - \rightarrow 2% \rightarrow at 40°C / Romip \rightarrow meat disinfection \rightarrow Antibacterial
 - \rightarrow 0.25% \rightarrow 60°C / 6 hrs \rightarrow animal hair or prists.
 - \rightarrow 1:5% \rightarrow foot path \rightarrow treatment of foot - Rot

adv: \rightarrow Broad spectrum.

46

Disadv: 1- very irritating \rightarrow Neutralizing by ammonia -
2- poor penetration -
3- toxic to animal

DODC → Cationic detergent. "by octaMV"

* removing of organic material

* Biocidal & Disrupting of cell membrane.

uses → 200 ppm or ↑ → + alcohol → effective against enveloped viruses hard to be killed. as Rota & Noro, Polio viruses

adv → good against fungi & enveloped viruses.

↳ lethal to wide variety of organism except endospores & Mycobacteria, Non-enveloped viruses

Disadv

→ Deactivated by anionic detergents.

→ Work best in soft water.

→ effective at 100°C

⑦ Sanitine

by shape, color



Sodium dichloroisocyanurate.

uses

① sanitation, disinfection of poultry farms, and slaughter house, hatchery & live stock farm.

Contra-indication

→ Not used before or after alive vaccination by 24 hr

⑧ Copper sulphates

→ Heavy metals. "color"

Mode of action

→ ppt. of protein, Bacteriostatic.

→ oxidation of sulphhydryl group.

uses → fungicide & herbicide.

Disadv

→ irritating.

→ affecting skin "itching", eye

highly soluble in water

